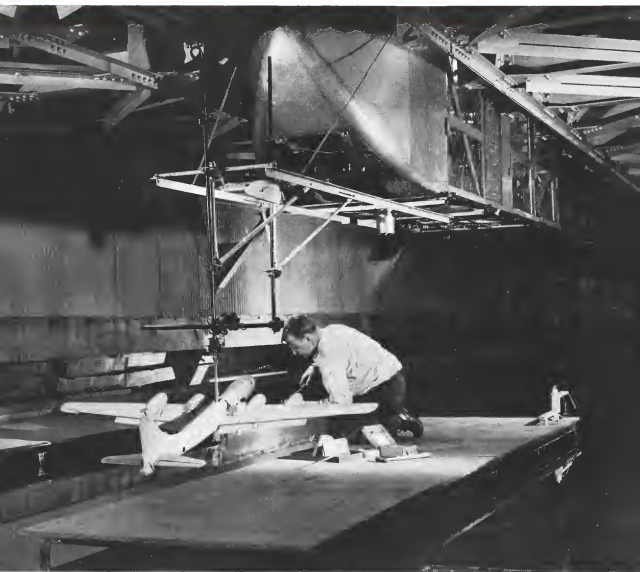


Aviation News

McGraw-Hill Publishing Company, Inc.

FEBRUARY 18, 1946



Langley Field Test Basin: Although research looking towards supersonic speeds is the prime project at the NACA's Langley Field, Va., laboratory, work is going forward in many other fields as well. Here an engineer makes final adjustments on a B-29 scale model which is to be put through "ditching" tests in one of the laboratory's tanks. The Langley Field laboratory was opened to aviation writers last week for the first time since before the war. (Story on Page 7)

Lockheed Shelves Its Personal Plane Projects

Big Dipper's crash crystallizes decision; personnel costs to be cut 10 percent.....Page 9

Campaign To Revitalize NATA Gets Underway

Plans to raise \$100,000 to launch national promotion drive are well received.....Page 13

after 1659 hours ON A DOUGLAS C-54

the Performance of this

3000 psi
VICKERS PUMP
 is "AS GOOD AS NEW"



PERFORMANCE
 REQUIREMENTS
 of Series PF-3911
 Pumps at Factory

ACTUAL TEST
 PERFORMANCE
 of a PF-3911 Pump
 After 1659 Hours
 Flight Time On C-54

VOLUMETRIC EFFICIENCY
 AT 3000 psi AND 3600 rpm

95.0%

97.2%

OVERALL MECHANICAL EFFICIENCY
 AT 3000 psi AND 3600 rpm

88.0%

91.9%

Factory tests of this pump after completing 1659 flying hours on a Douglas C-54 proved that it would still pass inspection for a new pump—that it was still "as good as new." Test data reproduced above indicate that it is substantially better than the high minimum performance requirements for a new Vickers pump both in volumetric efficiency and in overall mechanical efficiency. Careful inspection after disassembly revealed that this pump required no replacement of parts. A synthetic rubber seal was replaced and the pump was then reassembled and returned to service.

This record of continuous service was made without

overhaul; the pump kept right on supplying oil at 3000 psi without any difficulty at all. When finally removed, it was for inspection only.

As a matter of fact, all Vickers Hydraulic Equipment for aircraft is designed for maximum utilization. In addition to constant delivery piston type pumps, there are variable delivery pumps, accumulators, relief valves, unloading valves, power brake valves, motion, sequence controls, pressure reducing valves, etc.

Vickers Hydraulic Aircraft Equipment saved the Air Forces well on combat planes. It is now helping to increase utilization in postwar aviation.

VICKERS Incorporated • 1404 OAKMAN BLVD., DETROIT, MICH.

Engineers and Builders of **OIL HYDRAULIC EQUIPMENT**
 SINCE 1921

THE AVIATION NEWS

Washington Observer



BERMUDA PACT—The civilian aviation agreement between the United States and Britain is generally regarded in Washington as a victory for American air policies. It is based essentially on America's acceptance of freedom of the air and as a result United States airlines can haul their passengers in every part of the world—with the exception, of course, of Russia.

MARINE CAMPAIGN—The Marine Corps at organizing a special campaign to recruit around 1,000 men a month for aviation units. It has its eye on civilian aircraft industries which are reducing their staffs and on personnel eligible for discharge.

WAR ASSETS ADMINISTRATION—The Senate Military Affairs Committee is taking more than a passing interest in President Truman's executive order establishing the War Assets Administration to dispose of surplus property in the United States. The Justice Department will be asked for a ruling on the legality of the order. There are some members who hold that the President must ask Congress for permission. Nomination of Lt. Gen. Edmund B. Gregory as War Assets Administrator has been held up pending a decision.

AIRPORT STALEMATE—Progress reported last week on the airport bill now must be discounted. It appears from the goings on at Capitol Hill that there may be no airport bill at all—or, least at its present form. House and Senate conferees have failed to reach an agreement on the allocation of federal funds. Sen. McCarran and House conferees will not give in to a proposal to channel federal airport allocations through

state governments and at least three Senate conferees, led by Sen. Brewster, are adamant in their position.

BACKWARDS MOVE—Personnel of the National Advisory Committee for Aeronautics was reduced by 814 during the last three months of last year. In view of the savings and windstorm rights shown aviation writers at the Langley Field laboratory last week in a preview of things to come that reduction in personnel is a move back to home and buggy days.

SUPERSONIC FULL-SCALE WIND TUNNEL—Need for a full-scale supersonic speed wind tunnel, which would require far more power and more structural construction than any existing tunnel and might cost around \$160,000,000, is being studied by top aviation people in government and industry. It is understood Wright Field and NACA such would like to have such a tunnel. It is likely that the next few years will see much new aviation research equipment added, since the supersonic speed research renders obsolete much equipment which has been useful for research on lower-speed aircraft.

UNIFICATION STRATEGY—It is clear now that the Citizens Defense Council, in theory of organization, will be the spearhead of a campaign to arouse popular demand for unification of the armed forces. Gov. Robert S. Kerr of Oklahoma has accepted chairmanship of the council's advisory board, and announcement of the council's head of the council itself is due shortly. Most of the leading aviation associations are behind the plan and will be represented on the executive committee.



The Republic Rainbow roars up the runway during first flight tests (Aviation News, Feb. 12)

INDUSTRY OBSERVER—5



*Still a sign of the times...
twenty years later!*

In the winter of 1935 a much famed airplane landed by Eddie Stinson at a small, left runway in Detroit to build surplus.

And Eddie Stinson got about to have the few surplusers needed to build a new kind of plane he had designed.

When those first Stinson engines showed up at the plant they were greeted by a huge sign that Eddie Stinson had hung on the wall.

THE PILOT DEPENDS ON YOU!

But Eddie Stinson didn't depend on the sign alone to get from his surplus the kind of endorsement that made planes safe to fly. Men also made a Stinson were taken on the first set of tests of the plane that they had built.

After the first Stinson plane was produced and proved in flight, the Stinson factory was moved to larger quarters.

Eddie Stinson's sign was still hanging in a prominent place in the business of making Stinson planes.

SAFETY IS WHAT IT IS TO LIVE WITH Stinson designers and engineers!

The new first Stinson plane took the safety design features that gave it an excellent safety record before even its first flight.

Stinson started as a standard and Stinson has maintained its leadership in the field of personal flying for more than twenty years.

You can depend on Stinson to bring you the stress in flying safety!

The New STINSON VOYAGER 150—For Safe, Speedy, Luxurious Air Travel

Here is the personal plane that will bring you home or on travel at a price you can afford.

The Voyager 150 accommodates four comfortably in the newly upholstered, adjustable seats or six non-adjustable and reclined seats.

And it operates at no over-all cost that compares favorably with what you pay for transportation in the family car!

The power, speed, range, and maneuverability of the Voyager 150 make it a plane that you can fly anywhere. It cruises at 150 m.p.h., has a maximum speed of 215 m.p.h., and a range of 500 miles.

Let us send you a free, illustrated brochure telling all about this standard personal plane. Write Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Michigan.



Model shown with 1700 horsepower Allison engine. Twin 1000-hour engine.

Stinson

EASY TO BUY...EASY TO FLY

Attainment of Supersonic Speed By End of This Year Indicated

Concentrated research underway at Langley Field NACA laboratory on all aspects of high-speed flight; engineers forecast operation of 1,600-mph. aircraft planes within next three years.

By ALEXANDER MCURELY

Concentrated research on attainment of supersonic speeds with man-carrying aircraft has been underway at the Langley Field, Va., laboratories of the National Advisory Committee for Aeronautics, given promise of early fulfillment. A plane now flying, or in the final stages of assembly, may leap the barrier of the speed of sound at any time within the next few months, and it is quite likely that will have happened by the end of 1946, laboratory research indicates.

Feasibilities Listed—On the basis of data already compiled in supersonic research with high-speed wind tunnels, dropping models from 45,000 ft. altitudes and shooting models at supersonic speeds from compressed air guns, NACA engineers are willing to predict:

✦ Planes operated commercially, carrying mail, may be flying at 1,600 mph. regularly within three years. Larger passenger and cargo transports probably will not attain such speeds until later.

✦ Swept-back wings appear the type most likely to support the supersonic plane, although NACA researchers are seeking means to combine the swept-back wings disadvantages of low transonic speeds which generally will be necessary for landing. Triangular wings and low aspect ratio wings also have characteristics indicating they may be useful for supersonic flight.

✦ Swept-back propeller blades are likely to extend the useful speed range of the propeller well beyond 850-900 mph which previously has been regarded as the upper speed limit for propeller-driven planes.

✦ Fuselage shapes will become long and slender.

✦ Improved cowling shapes also will be used in designing nose apertures for jet engines and air scoops.

✦ Flying boats will continue useful as long as the earth has such a large percentage of its surface water covered, but a 300-mph. cruising speed within the next three years is about all the water-air craft may be expected to attain, indicating a rapid weakening in the speed advantage of the landing.

The NACA engineers voiced their opinions in the aviation press last week during the first news tour of the Langley Field laboratories since the war. Opened to inspection for the first time was the new West wing of the laboratories where extensive new test buildings and equipment were constructed to meet the imperative increased demand for wartime experiment and research.

Present Plans Shovel—Pressure for improvement of existing warplanes, the major war load of NACA, has been replaced with a posture for long-range research to provide this nation with new airplanes for

surpassing the present crop NACA, both at Langley Field, and at its other laboratories (Cleveland, Ohio, and Ames, Calif.) already has largely converted its long-range program with primary emphasis on the problems of high-speed flight.

Results of the laboratory studies will be available for military, private and commercial aviation alike, John Vignery, NACA secretary, pointed out, to serve as basic research from which the various branches of aviation may develop their own specialized projects.

✦ **New Research Outlined**—Research in connection with high speed flight is taking many forms at the Langley Field laboratory including:

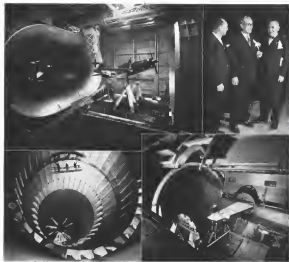
✦ Use of some 20 wind tunnels of various sizes and operating rates, ranging from the full-scale wind tunnel with a 50- by 30-ft. throat which accommodates full-sized fighter planes to tiny supersonic speed wind tunnels with sections only 8 in. by 8 in. where models of airplane components are tested.

✦ A cylindrical free flight tank 100 ft. long and 6 ft. in diameter through which models are "shot" by compressed air guns at speeds up to 1,600 mph far above the speed of sound (at sea level) by lifting the tank with Freon, a gas known to housewives as a refrigerator, the apparatus can simulate a speed three times as great, or approximately 4,800 mph, since the speed of sound in this gas is only one-third of that in air.

✦ A faster tunnel with a 4½-ft. test



High-Speed Wind Tunnel—This 15-ft. high-speed wind tunnel at the Langley Field NACA laboratory is the scene of careful check-ups on fluid characteristics of proposed planes.



Research Center: Three representative wind tunnels from the 32 which are in operation at the NACA Langley Field, Va. laboratories, give an indication of the widely varied research in progress there. The largest is a full-scale tunnel with a 28- by 60-ft throat in which actual airplanes as large as the Curtiss-Wright Hellcat may be tested at wind speeds up to 128 mph. The 18-in. high-speed tunnel (lower left) can test components such as propellers and nozzles at speeds up to 228 mph, and is expected to attain even speeds

when the power is increased from 16,000 to 48,000 hp. Size of the tunnel may be judged from the men on the right. The third wind tunnel picture shows a test section being prepared for test in the open test section. Present at the showing were three top executives (top left to right): **Stewart J. DePree**, engineer in charge of the Army, NACA, laboratory, **Henry J. E. Ross**, engineer in charge of the Langley Field laboratory and **Ray Sharp**, general manager of the Cleveland laboratory.

rotors one of the most critical installations on speed of rotary-wing aircraft, are being studied with a 46-in. helicopter test tower with a motor-driven shaft which will turn full-sized rotors up to 60 ft in diameter from the top of the tower, for which tests to study aerodynamic, flutter and vibration.

An auxiliary island base a few miles away where supersonic cruises are being tested for stability and control. Numerous were shown.

• **Tip speed problems of helicopter**

physics on Langley laboratory research is concentrated on high speeds, a wide range of other projects for improvement of aircraft are also being undertaken simultaneously, including:

• A gust tunnel in which models of 6-ft wingspan are installed at speeds of 250 mph to fly freely through controlled vertical gusts to determine effect of severe updrafts or downdrafts on the model. Data obtained here is being supplemented with V-G (Velocity Gravity) research, which already have been flown over 35,000,000 miles under widely divergent conditions in approximately 3,000 civilian and military transport planes. NACA studies show a steady upward trend in gust loads from 14 lb per sq ft for the Boeing 347 transport in 1925, to a loading of 167 lb on a jet plane now in design stage.

• Powerful hydraulic testing machines capable of exerting up to 600 tons stress at existing force on actual structural members, including a combined load testing machine designed at the laboratory which will apply a torque or twisting force simultaneously with a tension or compression.

• Hydrodynamic tanks where models of airplanes and flying boats are towed to determine and measure stability, control resistance and spray characteristics and where landing mode can be tested for "drifting" characteristics (See Cover).

• An impact basin into which models of airplane floats are catapulted at speeds up to 74 mph and dropped to simulate water landings, measuring impact used. A water-ignition device produces waves 3 ft high to simulate rough landing conditions.

• Jet-flight tunnel, believed the only one of its type in the world, in which remotely-controlled scale models are flown in a 12-ft test section under their own power making possible study of new configurations and designs in, aerodynamic and guided missiles in actual flight.

• The pre-war open tunnel in which spin tests are conducted as virtually every new military aircraft design (more than 178 types in the last few years) with a model of improved spin characteristics in 75 percent of the designs tested. Emergency escapes from spinning model planes are simulated by seeded and weighted dummy pilots, to determine the best method of bailout from spin loops.

Henry J. E. Ross, engineer in

charge at the Langley Field laboratory, since January 1936, has watched the laboratory expand into what is now one of the world's largest concentrations of aeronautical research equipment. At the beginning of the war the Langley equipment was valued at \$10,000,000 with 400 employees, while currently it has expanded to five times as pre-war size.

Arnold Reiterates Backing Of National Air Museum

Gen H. H. Arnold last week reiterated his support of the Randolph Hall to establish a national air museum in testimony before the House Library Committee. The NAA and NACA also endorsed the proposal to organize the air museum under the Smithsonian Institution. The most controversial aspect of the museum, it developed at headquarters in the Air Force, is reported to have received 283 replies to queries regarding the development. All of them favor immediate establishment of the museum, but differ as to its location. The largest portion favor Washington.

Arnold has urged a surprise aircraft factory be used.

Lockheed Shelves Personal Planes

Lockheed Aircraft Corp. last week decided to discontinue airplane production for the time being and look initial steps to turn its personnel involved costs by 10 percent.

The crash a week ago of the company's two-passenger piston airplane the Big Dipper, brought to a head the company's decision to attempt an immediate revision of the personal aircraft market.

• **Project Division Wiped Out:** The Lockheed special projects division, as a result, has been wiped out by what is announced as a "surprise" with the engineering department, headed by Vice-President Hal L. Hubbard.

It may be assumed that the company's new plane Little Dipper and the Big Dipper series will be built temporarily. However, the company may be expected to continue its helicopter research, although when the Special Projects Division was organized to separate from military engineering a limited amount of commercial research during last decade was years.

• **Continued Interest Stressed:** However, Lockheed top officials insist the company has not lost interest in the personal aircraft business and still remains convinced that the future of airplane mass production lies in the personal plane market.

Lockheed's reduction of personnel well result in approximately 3,200 workers being laid off by the end of this month and with further reductions to follow until reduction, when the company's payroll may be expected to level off at 25,000 production workers.

• **Factory Outlined:** Two factories involved in Lockheed's employment reduction. One is a temporary production hall resulting from the company's withdrawal from production of 45 ordered units of the interim model 49 Constellation in the manufacture of the more business model 440 Constellation, 30 of which are on order. More personnel, however, is the contention of the company that since the end of the war production has not increased sufficiently to absorb the estimated \$18,000,000 overhead and increase represented by the 14 percent pay raise to hourly employees last November.

• **Reduction of Staff:** Lockheed is expected to show an \$800,000 annual reduction of overhead expense without requiring production.

charge at the Langley Field laboratory, since January 1936, has watched the laboratory expand into what is now one of the world's largest concentrations of aeronautical research equipment. At the beginning of the war the Langley equipment was valued at \$10,000,000 with 400 employees, while currently it has expanded to five times as pre-war size.

Kellett Corp. Developing Twin-Engine Helicopter

What may be the first twin-engine helicopter to fly in order development at Kellett Aviation Corp., Upper Merion, Pa. 31 is the XR-10, originally planned as an ambulance plane for the AAF but now being considered as a 12-passenger helicopter.

Delayed by labor difficulties among subcontractors, the Kellett machine is not expected to fly for several months. A mock-up of the fuselage, however, is shown to airline representatives within a few months.

Sherman Gets New Post

John Sherman, who has been a special consultant to the Civil Aeronautics Board, acting as liaison between CAB and the State, War and Navy Departments, has been named Assistant Director of the Economic Bureau in charge of international affairs. Robert W. Green, who has been Assistant Director of the Economic Bureau, remains in charge of domestic affairs. Robert W. Adams is Director of the Bureau.

Spaatz Takes Over As AAF Commander

Warrior of planes' adolescence but crosses against achieving them until new ones are perfected

Commander of the Army Air Forces has passed from the wartime leader, Gen. H. H. Arnold to Gen. Carl Spaatz, who headed strategic air forces in the European and Pacific theaters.

"The air force of today is yesterday's air force," Gen. Spaatz said. "But we must keep it in being until we have perfected the air force of tomorrow."

French Preference—Spaatz is 34, five years younger than Arnold. His permanent appointment requires congressional approval, regarded as a foregone conclusion. He will serve as acting chief in the meantime.

At a farewell dinner in Washington for Gen. Arnold, his successor and that Gen. Arnold accomplished what could not be accomplished. He urged an argument of enormous size and complexity. The Army Air Forces at its apex was a lengthening narrative of its command.

Independent AAF Opposed—Almost coincident with the change in command, Kenneth C. Noyall, acting secretary of War, sent a letter to the House Committee on Appropriations in the War Department to the creation of a separate department of the Air Force without instituting unified command over the Army, Navy and Air Forces under a single department of national defense.

Two identical bills before the committee have been considered by the War Department, Noyall informed the committee, and it is the department's conclusion that these measures providing for a separate air force did not guarantee the most effective use of United States military arms.

Backed By Eisenhower—He and his staff in supporting the bills was backed by Gen. Eisenhower, Army chief of staff, and Arnold.

The War Department, Noyall said, "fully recognizes that one of the reasons at this war is that our power has come of age," and that we have parity with land and sea power in time of peace as well as war. He added, however, the department believes this parity best can be obtained by following President Truman's recommendation for a single department combining all three branches of the service.



Turning Over Command: Gen. Arnold and Gen. Spaatz shake hands at Pentagon ceremony in which the former handed over the reins of the AAF to Spaatz who led the U. S. Strategic Air Forces.

Kenn Named Aide

Major Gen. Hugh J. Kneer, director of the Air Technical Service Command at Wright Field, has been named special assistant to Gen. Carl A. Spaatz, newly-appointed Army Air Forces commander.

Gen. Kneer is a veteran of research, technical and administrative work having been associated with the type of duty aircraft from the establishment of the AAF. Prior to his duty as Wright Field he was Deputy Commander of the U. S. Strategic Air Forces in Europe and deputy commander and commander of the Eighth Air Force Service Command.

He originally was commissioned as major in the Navy later was appointed a second lieutenant in the Coast Artillery and then transferred to the Air Service and took pilot training in 1917.

Outlines Advantages—Noyall's letter contended that creation of a single department with three coordinate branches would produce their desirable results: 1. Establish an organizational structure providing for unified direction below the President and ensuring an integrated military program and the highest measure of coordination and efficiency of our armed forces. 2. Attain air power on equal status

with the land and sea forces and 3. Achieve maximum economy in men, material and money.

"The inescapable conclusion from all our experience," Noyall wrote, "is that separation at the top necessarily entails separations all along the line, while unity at the top through the establishment of a single department for our armed forces will permit us to expeditiously fully apply what we have learned."

Weather Study Bill Passed

Legislation authorizing the establishment of a network of meteorological stations in the Arctic region to promote the development of Great Circle trans-polar airways was approved by Congress last week and forwarded to the President for signature.

The bill, introduced by Sen. Owen Brewster (R. Me.) leaves details of the development to the Air Coordinating Committee of the Commerce Department. Senate Committee Chairman estimated that each meteorological installation would cost about \$200,000.

Conference Postponed

The Joint Air Delmas Conference which was to be held Feb. 22-23 at the Mayflower Hotel Washington D.C. under the sponsorship of the NAA's Joint Air Staff Officers Conference has been postponed until March 28-30 at the same place.

Report on Bombing of Japan To Be Completed About March 1

Most of staff of 600 making study now are back in Washington to write up data which will figure in battle over unification of armed forces.

Reports on bomb damage to Japan will be completed about March 1, according to unofficial estimates by authorities in charge. There will be a number of verbal reports on cities, areas and industries, and some hurried analysis of the overall Army and the Navy air attack.

The United States Strategic Bombing Survey, headed by Franklin S. Doolittle, president of Prudential Insurance Co., went to Japan after completing the German study and was on the job there from Sept. 13 to Dec. 1. Most of the staff of about 600 recently returned and is housed at the Air Force Annex at Grosvenor Park, Washington, D. C., working up the data.

Significance—President Roosevelt ordered institution of the survey in a letter to the Secretary of War, Sept. 9, 1944, to obtain data for the forthcoming attack on Japan, and for use in post-war planning and employment of the armed forces. On August 18, President Truman ordered the survey extended to cover Japan. A crisis was put in danger to assure impartiality.

In addition to making a record for future military reference, the reports will be used in the Allied control and rehabilitation of Japanese industry. They also will figure in the imminent Washington battle over the proposed unified command of the armed forces and co-equality of the Air Forces. The survey covers effects of atom blasts over Hiroshima and Nagasaki, although these targets had already been investigated by scientific scientists and bombing experts.

Scope of Survey—The Jay survey is divided into several sections, such as oil and chemicals, over-all effects, transportation, physical damage, aircraft plants, and others. T. P. Wright, Civil Aeronautics Administrator, is chief of the aircraft damage, and Capt. S. Paul Johnston, U. S. Navy, is deputy chief.

The Navy, which has very little interest in the bombing survey of Europe, had a large share in the air attack on Japan, and therefore is participating extensively in the in-

vestigation. The staff is made up of both Army and Navy personnel, with a sprinkling of civilians. Capt. Johnston was deputy chief of the aircraft section in Europe. Also, he was stationed down the Navy upon request of Mr. Wright.

Congress Debates—The bombing survey of Germany and Europe did not accomplish its full purpose because it was not completed till long after the plan of strategic bombing Japan had been developed. Economy-minded critics of the study, none of them in Congress, do not believe it was worth what it cost, and they are especially dubious about the huge staff working on Japan.

They feel that a few experts could have obtained all the useful information. But Army and Navy are in the clear, because they did not order the investigations, and are not running them. But of course Army and Navy issued orders for co-operation with the survey, all the way down the line.

Job Easier—Whereas the USRS in Germany was handicapped and embarrassed by a half-hearted order American and British industrial survey groups, uncoordinated and without over-all control, in Japan it was free to work efficiently. The Japs were more cooperative than

the Germans—even aggressive in their desire to help. In Germany the factories had been destroyed by firebombing. Bombs, by vindictive displaced persons and by Allied troops fighting through. In Japan there were no such handicaps.

The Japs said they learned more than they ever knew before about their industry as a result of helping the American analyze it.

Ryan Announces Creation Of Stainless Steel Division

Ryan Aeronautical Co. has announced creation of the Stainless Steel Manufacturing division, indicative of the company's plans for expansion of postwar production.

T. Claude Ryan, president, said the new division, formerly known as the exhaust systems division, will concentrate on new and more appropriate life due to the broadening of its line of products. In addition to aircraft exhaust systems, parts for jet propulsion engines and allied accessories, which have been in production, a number of non-aeronautical products of stainless steel which will fit the facilities and technique of this division have been developed.

Clearer Signals Urged

With steps already under way to standardize head signals for airline standard operations, here Insurance Underwriters of New York is urging clarification of cockpit signals between captain and crew. Suggestion has been made that phonetic be studied to eliminate repetition of syllables and ambiguity.



HOKNET ADAPTED FOR CARRIER USE:

The Grumman Hellcat, noted as "better 475 mph", has been adapted for use aboard aircraft carriers by equipping it with hydraulic-operated folding wings, an "A" shock arrester and a JATO device. The Hellcat has a 2,500-hp engine at 240 mph at 20,000 ft when carrying 320 gals of gasoline, including a 250-gal drop-tank under each wing.



Capt. S. Paul Johnston

Capt. S. Paul Johnston Named IAS Director

Capt. S. Paul Johnston, USNR, has been appointed Director of the Institute of the Aeronautical Sciences and will take over the post in April.

Widely known in the aviation field, Johnston was an Army aviator pilot in World War I, and after his graduation from the Massachusetts Institute of Technology he spent eight years with the Algonquin Company of America. In 1923 he joined the editorial staff of Aviation magazine, a McGraw-Hill publication, and in 1928 became editor.

A CNA Researcher—He was appointed Co-Director of Research of the National Advisory Committee for Aeronautics in 1940 and for a time served as executive assistant with the Aeronautics Administration, WPA. For three years he was Washington manager for the Cawthright Corp.

He was commissioned a lieutenant commander in 1935 and was called to active duty in June, 1940. He served with the Naval Air Transport Service in the Pacific as engineering officer and was promoted to the rank of commander in January, 1945, when he became deputy director, research division, U. S. Strategic Bombing Survey. After duty in England, Germany and France he was transferred to smaller duties in Tokyo. He was made a captain last December.

Coast Guard Gen B-29's

The Coast Guard is acquiring 16 surplus B-19G Flying Fortress to use as sea search and rescue craft. Six will be stationed on the East Coast, one on the West Coast, and four on the Great Lakes.

IATCB Acts to Cut Down Number of 'Danger Areas'

The Interdepartmental Air Traffic Control Board has voted to reject an Army proposal to reclassify 100 existing danger areas in the U. S. as presently barred to civil aircraft.

The number of such areas, which IATCB says shrank daily, is being reduced as military operations decrease. Danger areas are those in which aircraft may not be flown without specific authority because of invisible hazards. Certain areas contain visible hazards to be avoided when practicable.

Although many of these areas will remain after the reclassification deadline, considerably more navigable air space is expected to become available for civil operations through the Army's action.

Wellwood E. Beale Gets New Position

Heads both engineering and sales at Boeing, Josephus assumed as Cals finance post. Cale to direct Trans modification work.

Appointment of Wellwood E. Beale, formerly vice-president in charge of engineering for Boeing Aircraft Co., to the new office of vice-president in charge of both engineering and sales highlighted changes in top personnel last week. Directly assuming Beale will be chief engineer Edward C. Wells. Sales manager Fred B. Collins and Service Manager Robert L. Crowlley. New assignments will be set up under the enlarged appointment.

Cal N. Henry Josephus (photo) became vice-president in charge of



special consultant to the Secretary of War. Prior to that he was with the Army Air Forces at Wright and Patterson Fields and other commands. He is an attorney.

Chester C. Cole has been appointed vice president, Eastern Aircraft Corp., Metropolitan Airport, Van Nuys, Calif., in charge of the modification division. He formerly

was coordinator of sales and service for Douglas Aircraft Co. and also served as assistant superintendent for Eastern Air Lines. He has been with Pan American Airways, United Air Lines and Western Air Express.

College Flight Training

The University of Kansas City is offering a course in flight training, with instruction open to all students, including veterans. The Kansas City Flying Service and Air College, Inc., are cosponsoring.

AVIATION CALENDAR

- Feb. 10—AIAA annual conference, Atlantic City, N. J.
- Feb. 11—AIAA annual conference, Atlantic City, N. J.
- Feb. 12—AIAA annual conference, Atlantic City, N. J.
- Feb. 13—AIAA annual conference, Atlantic City, N. J.
- Feb. 14—AIAA annual conference, Atlantic City, N. J.
- Feb. 15—AIAA annual conference, Atlantic City, N. J.
- Feb. 16—AIAA annual conference, Atlantic City, N. J.
- Feb. 17—AIAA annual conference, Atlantic City, N. J.
- Feb. 18—AIAA annual conference, Atlantic City, N. J.
- Feb. 19—AIAA annual conference, Atlantic City, N. J.
- Feb. 20—AIAA annual conference, Atlantic City, N. J.
- Feb. 21—AIAA annual conference, Atlantic City, N. J.
- Feb. 22—AIAA annual conference, Atlantic City, N. J.
- Feb. 23—AIAA annual conference, Atlantic City, N. J.
- Feb. 24—AIAA annual conference, Atlantic City, N. J.
- Feb. 25—AIAA annual conference, Atlantic City, N. J.
- Feb. 26—AIAA annual conference, Atlantic City, N. J.
- Feb. 27—AIAA annual conference, Atlantic City, N. J.
- Feb. 28—AIAA annual conference, Atlantic City, N. J.
- Feb. 29—AIAA annual conference, Atlantic City, N. J.
- Feb. 30—AIAA annual conference, Atlantic City, N. J.

PRIVATE FLYING

Campaign Begun to Revitalize NATA; Headquarters Moved to Washington

Plans to raise \$100,000 to hire executive director and launch national promotion drive are outlined at regional meeting in New York and get good reception

By WILLIAM KROGER

A campaign to revitalize the dormant National Aeronautics Association was started last week with the removal of headquarters of the association to Washington, D. C. and the holding of a regional NATA meeting in New York City. Speedy plans are being set for a drive to raise \$100,000 to employ an executive director and staff and launch a public relations and promotional program to put NATA back on its feet as the national spokesman for airport operators and dealers.

Reaction Is Good—The New York meeting of operators in NATA Region I, was the first of seven regional conferences which are being called to explain objectives of the drive. Although attendance was below expectations due to strikes in New York, reaction was reported favorable to the proposed financial program.

The entire main would be raised through greater membership, and increased dues. Rate for Class C operators, the smallest, probably will be upped from \$25 to \$50 annually. Class B dues are expected to go to \$100, and Class A is \$350. Associate membership would cost \$500 per year.

NATA Now Handling Work—There was strong feeling, however, that regional organizations should be prevented to continue their local activities, with a certain percentage of dues being retained. An encouraging development was the ready reception by Class C members of the increased dues proposal.

Until the overall project has been explained through the other regional meetings and approval obtained, NATA's affairs in Washington are being handled by the National Aeronautics Association on a three-month contract. Duration of the contract indicates that NATA officials hope results of the campaign will enable the Washington office to be in full swing before the re-

tional convention which has been tentatively set for this spring (Aviation News, Oct. 29, 1945).

Garbide Sparks Campaign—Sloping spirit in calling the successful New York meeting was Joseph Garbide, head of Wiggins Airways, and president of Region I. A leading advocate of NATA expansion and strengthening, Garbide is expected to play an increasingly active role in the national organization.

Due result of the campaign, if successful, will be to remove speculation regarding a merger between NATA and the Aeronautical Training Society. ATS members have been reluctant to consider the proposition, as frequently and organically ATS has been stronger than NATA. At least one prominent NATA member believes the new campaign will put NATA in a much better position to approach private interests.

Speakers At New York—The New York meeting was addressed by Rep. Jennings Randolph (D., W. Va.), Maj. Gen. Robert W. Douglas, Jr.,

Flies To Work

G. Bernard Fossick, Jr., vice-president of the first standard and work when he moved. Pan-Maryland Airways offers from the Manassas Building to the Washington Airport, and issued he could save time and money by flying to work.

Fossick's home to the Manassas Airport by road the distance is 25 miles. On the other hand, it is only five miles from Fossick's home to the Manassas Airport, where he keeps his Taylorcraft plane and only 15 minutes more to Manassas Airport. The extension from Manassas is barely half the auto cost.

Plane Charter Service—Fossick plans to operate intrastate and charter air service from the Manassas Airport and possibly from Carlisle Wright as soon as he obtains new planes on an order. (See Page 2)

commanding general, First Air Force, Richard Dewey, chief of aircraft disposal, War Assets Corp., H. C. Thomas, of the components and built section of WAC, and William Anderson, Pennsylvania director of aviation and president of the National Association of State Aeronautics Officials.

Graham Heads N. Mex. CAP

Lt. Col. Lewis W. Graham has been appointed commanding officer of the New Mexico wing of the Civil Air Patrol, succeeding Lt. Col. James L. Bower who has been placed on the CAP retired list.



LUSCOMBE MODEL 10

Believed to be the fastest biplane in its power class, the new experimental Luscombe Model 10, which has completed 500 test runs at home plant at Dallas, has a top speed of more than 125 mph. and will cruise at 122 mph. (Aviation News, Feb. 12)



Kauer Takes Wheel: Jerry Kauer, West Coast infomaniac (right), gets pointers from James Haines, test pilot, in the cockpit of new Kauer-Haines personal plane. Kauer himself is around the Oakland, Calif., Airport prior to successful flight tests. Other notes were referred for the tests.

its safety, ease of operation. Several of the remaining planes are now in the possession of other aircraft manufacturers for study at intricate size, flap and other advanced design features of the 11-year-old craft.

Kauer's reputation as a production manufacturer, and his willingness to pass greater financing into products which are underdeveloped, make the plane may be produced on a large scale if Kauer decides to go ahead with it.

NAA Division Plans 'Better Airports' Drive

Plans for a formal award of a certificate of good practice to every airport in the United States which meets minimum standards and suffers no fatality or serious injury are being developed by the air safety division of the National Aeronautics Association, headed by Jerome Lockwood, safety engineer for the Aero Insurance Underwriters and former CAB safety bureau head.

Plans call for satisfaction of all Class 2, 3, and 4 airports of the proposed awards, with invitation to participate. It is expected that local newspapers will encourage community airports operators to bring them up to standards.

Possible Scope of Standards—While final details of the standards to be set have not been completed, it is expected that they will include airport markings, fences, traffic pat-

terns and rules, wind indicators, refueling facilities, fire protection, provisions for operator's checklists of instruments, lounge, lavatories, radio equipment, personnel seating, efficiency, prompt service and courtesy.

The airports would be visited by volunteer inspectors, and state aviation officials are expected to assist.

May Be Costly—The move is seen as a first attempt to develop standards nationwide for safety and service for small airports and is expected to contribute much by educating the operators on what the public has a right to expect at an airport. If the earliest proves successful it will continue as an annual event.

Southern Aircraft Roadable Based on Californian's Plane

Although Southern Aircraft's clean-bodied roadable airplane (Aviation News, Feb. 4) came as a "post-war" surprise to many, actually it was the result of more than five years of development after its prototype flew over San Diego, Calif., in 1939.



Father of this roadable aircraft is Theodore P. Hall (photo), chief of design and research for Consolidated Valves. He designed and built it in secret.

through 1938, 1940 and 1941 made improvements and secret test flights at Los Angeles Airport.

War Halted Work—The war halted

ed his work on the project so he turned his energies into primary development of Convair's heavy military aircraft series and, more recently, Convair's 304-passenger Model 33.

He turned his roadable plane over to the Southern Aircraft Division of Portable Products Corp., Garland, Tex. for final development into the experimental model now being.

Airfield Information Book Planned For Private Flyers

A private flying information service on airfields and landing strips similar to the Army Manual now published for airline pilots, is planned by Jeppesen & Co., Denver. Capt. Kirby B. Jeppesen, chief of the company and USAF pilot, expects the two-volume manual, which attained a 12,000 circulation during the war, will attain a far wider circulation in its private flying edition. The current manual includes only transport fields, and is kept up to date by loose-leaf sheet revisions which are sent out as changes at the various fields are noted. He began his manual as a personal memorandum of such information in his own limited notebook, and later began duplicating it for other pilots.

State Air Tour Planned

Plans for a state-wide tour of 100 private planes are being drafted by the Oklahoma Aviation Association, President Al Guthrie announced. The tour, to be held later in the spring, is expected to visit without airports throughout the state to encourage building of additional community airfields in Oklahoma.



Flier Roadable Plane: The Southern Aircraft roadable plane shown at the center of Aviation News, Feb. 4, goes back to this roadable plane of Theodore P. Hall, chief of design and research at Consolidated Valves. The Hall model, shown here in its ground vehicle version, was road tested and flown in the San Diego area in 1939. War demands on Hall's time caused him to turn the project over to Southern Aircraft for additional development.

Change to UNF Will Be Easy On Private Flyers, Wright Asserts

Points out that switch-over will be gradual and "painless," eliminating need for immediate expense of replacing present equipment; current systems will be continued for several years.

Private flyers will find the forthcoming change from low frequency to high frequency radio for civil aircraft communication and navigation a gradual, "relatively painless" and ultimately beneficial affair, according to CAA Administrator T. P. Wright.

An interim period of several years in which both low frequency and VHF equipment may be used eases the necessity for a sudden sizable investment in new VHF equipment by all civilian flyers. But eventually, all airway communication and signals for radio navigation will be on the VHF band, eliminating the serious static problem.

Will Continue Present Service—The CAA plans to continue to operate its present services using 3100 kilocycles for private flyer transmitters to CAA ground stations, and 276 kilocycles for traffic control broadcasts to private flyers.

In addition the existing low frequency range will be available to the private flyer's use, some has present receiver covers the 200-600 kilocycle band. Any plane with approved low frequency equipment has all CAA airway aids and communications available, now and will continue available for several years.

Change Will Be Complete—However CAA's plans do call for eventual complete change to VHF. Already ground transmitters are installed which can be received by planes fitted with VHF equipment, which not only gives better reception but relieves the 276 kilocycle band in many areas already overcrowded.

Radio manufacturers generally are planning to build a five-channel transmitter covering the 121 megacycle band. Only two frequencies will be used at first, 117.9 megacycles for communication from plane to traffic tower and 131.7 kilocycles from plane to airways station. Later, as these channels become crowded, other channels can be used by the same transmitter, simply by installation of an crystal for each channel.

Towers Now Using VHF—Ground

transmitters in VHF, for talking to planes, will use the 118 megacycle band. Transmitters already are installed at CAA towers and are being used to communicate with planes which have VHF equipment, especially in congested areas, to relieve low frequency channels. At CAA airway stations transmitters will use 111.1 megacycles.

Wright emphasized that the transition was being planned to make its effect as gradual and as inexpensive as possible.

Beech Put in Service

Northshore Flying Service, Greenough, 8 C., has placed a new D18G Beech twin-engine executive transport in charter operation. The company is regional representative for Beech in the Carolinas, Virginia, District of Columbia and parts of Maryland and Georgia. Northshore has bases at Columbia, Greenville, Greenville-High Point, Fayetteville, N.C., Albany, Ga., and Washington, D.C.



LINK BUYS AMPHIBIAN

Edward A. Link, president of Link Aviation Division, is planning a six-week tour through Cuba and Mexico next month with a new plane, the new Grumman Waggon amphibian he purchased recently. Mr. and Mrs. Link are shown above at Tru-Cities Airport, Birmingham, N.Y., with Lee Warrender, right, Link sales representative in New York.

Piper Feels Strike

Approximately 1,000 employees of Piper Aircraft Corp. at Lockhaven, Pa., were "dismayed" last week because of lack of materials. Company officials said the steel strike was the cause but added that the workers would be needed to ensure operations as soon as materials and components again become available.

A study of the new week's operations for the new machine was planned by the first plant's union. The efficiency record throughout the plant has slipped to 85 per cent, with some 300 workers doing all departmental collecting bonus pay.

CAP Will Continue As Auxiliary to AAF

Gen. Carl A. Spaatz, AAF commanding general, last week announced the Civil Air Patrol would continue as an auxiliary to the AAF, even though the federal appropriations to finance CAP would be ended as of March 31.

AAF leaders have indicated CAP can continue to be useful as an aid to discharged veterans as well as in supporting AAF cadet training and other AAF programs. Whether the auxiliary status will continue indefinitely, or only until such time as

CAP becomes a chartered civilian organization, was not dissuaded.
Pittsburgh-Budler Airport. In the past, the national headquarters of CAP was moved to Washington last week from Ft. Worth, Tex., and was to be established either at the Pentagon or at Bolling Field.

A committee of state CAP representatives met at the Pentagon last week, also, to draft plans for the construction of the organization as a civilian group. Methods of financing CAP through membership dues or other means is one of the principal problems.

Pittsburgh-Budler Airport Sold to Flying School

Graben Aviation Flying School Inc., of Pittsburgh, has purchased Pittsburgh-Budler Airport, one of the largest privately-owned fields in Pennsylvania, and plans to develop it into a "country club of the air."

The former owner of the field, Transcontinental & Western Air, Inc., previously had leased the field to the school. William J. Graben, president of the school, said he had been in action on the field for some time.

Operates Other Fields.—Graben and the Schober Aviation Co. will continue to operate the field. Opening of the field to other agencies and clubs organizations also is scheduled.

Graben operates airports in Pennsylvania, Georgia and Maryland including commercial fields at Johnstown, Pa., and Cambridge, Md. He operated a string of war reserve training fields in the South during the war.

Socoy-Vacuum Presses Airport Development Drive

Second motion pictures designed to stimulate development of airports as communities not now having them, and to aid in growth of existing airports, are being distributed by Socoy-Vacuum Oil Co., Inc., national marketing organization for Standard Oil of New York, Magnolia Petroleum Co., Standard Oil of Kentucky, and General Petroleum Corp. of California.

The first film, "Golfing Unlimited" depicts progress in transportation and seems to encourage proper airport design and better service to the public. A second film will show details how they can give better service to private aircraft. Socoy-Vacuum also has prepared two manuals showing how to plan airport development.

Briefing For Private Flying

Many flights of private flyers, which were beginning to create widespread interest among aviation flyers before the war, are being resumed in many parts of the country as more private planes become available and more private pilots get their tickets. If the interest in personal aviation continues to mount it is likely that local flights far larger than any pre-war will become a usual event in a week-end at the private airport. One of the best known Midwest pre-war breakfast flight organizations was the Michigan Dawn Patrol, which held its first post-war rally at Adrian, Mich., airport on a recent Sunday. Tribune was paid to the late Ken Morley of Adrian, father of the Dawn Patrol, who was killed in a CAP plane crash two years ago.

FRIGID FLIGHT.—The Wisconsin Civil Air Corps recently put a new angle on the conventional breakfast flight when its members arranged a "Frigid Flight" from Milwaukee to Sturgeon Bay, approximately 150 miles by air, during snow-storm weather. An unexpected snow storm added to the rigidity as the tourists entered the Bay, but all planes arrived safely and the 48 visitors participated in a winter sports party after pretending a charter to the Door County east of WCAC. The state corps, organized in 1935, now has 17 chapters and more than 2,000 members.

NEBRASKA FLYING FARMERS.—A recent Organized Agriculture conference at Lincoln, Neb., brought in a number of flying farmers and ranchers in their own planes. They landed at Union Air Terminal and were provided with transportation to the conference, held on the University of Nebraska campus. Speakers at a special Flying Farmers session included W. T. Feyer, Sr., president of Piper Aircraft Corp., John Reynolds, Chase County flying agricultural agent, Max Kier, member of the State Aeronautics Commission. A number of farmers recently discharged from military service indicated they intended to take flight instruction under the GI Bill of Rights, if this could be arranged.

GLOBE'S ACES.—Two of the top fighter pilots of World War II, Maj. Don Gentile, of Piquette, Ohio, and Maj. John T. Goetz, Waukegan, Ill., are planning a national air tour flying Globe "Swift" two-place low-wing personal planes, representing Globe Aircraft Corp., El Paso, Texas. Purpose of the tour is to publicize aeronautical activity in Texas.

\$256 A MONTH TO BUY AND FLY.—A Kansas City Times reporter interviewed William A. Ong, local Piper distributor, and came up with the rather dramatic information that it would cost approximately \$220 a month, after the prospective plane owner had laid down a \$700 down payment, to buy and fly a Cub Trainer placed at \$2100 there. Ong's figures went like this: Balance on the airplane, \$1,400; insurance (10 percent deductible) \$124, carrying charges (8 percent) \$170, totaling \$1,794. To get it out on a year's term the monthly payments \$148.84. Balance will decrease this to \$168.50 a month before the pilot can turn the propeller over. Ong figures gasoline and maintenance at \$3 an hour, so that if the pilot flies as much as 20 hours a month, he adds another \$60 a month to get a total monthly cost of \$228.50 while the Cub Trainer, one of the lowest priced private planes on the market, is being purchased.

NO AIRPORT ON SWAN ISLAND.—Efforts of private flyers and operators in the Portland, Ore., area to have Swan Island, in the Willamette River, restored to use as an airport have been defeated by opposition of the Portland Chamber of Commerce, foreign trade and industry associations. The Port of Portland Commission rejected the proposal to restore the island to its pre-war status as an airport. It had been used by all commercial lines operating out of the city until construction of a larger airport west of Portland. The island was leased to the Maritime Commission and was used during the war as a Kaiser Industries shipyard. It is expected to remain an industrial site.

D. C. FLYING.—Four hundred and twenty-eight Washington, D. C., students own their own planes, a recent CAA tabulation shows—an increase of 117 planes over two years ago. There are 1,146 students holding pilot licenses, approximately 1,625 students are taking flying lessons at the six principal airports in the area and there are 30 combined flying clubs with a total membership of more than 840. —Alexander McElwain

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 planting, producing... renewing its trade with all the world
 ...a resurgence speeded on the wings of
 Lockheed Constellation, powered by Wright, flown by TWA.

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 Aircraft Engines

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AIRCRAFT INSTRUMENTS

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INDICATORS

Magnetic-drag Tachometers

For the measurement of aircraft engine speed, more than half a million tachometer indicators and generators have been supplied to the armed forces since by General Electric. (Additional thousands supplied to G-6 drawings by other manufacturers.) Such demand reflects recognition of the following features:

- RELIABILITY**—Less than one out of every thousand instruments shipped from the factory has been returned because of malfunctioning.
- ACCURACY**—An instrument with a full scale reading of 3,000 rpm indicates within plus or minus 50 rpm in the operating range.
- VERSATILITY**—These instruments are available in a variety of ratings.



GENERATORS



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- Ammeters and voltmeters
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- Booster gyroscopes

GENERAL ELECTRIC



• An explanation of the magnetic-drag principle and its applications is contained in Booklet G-E-2113. Get your copy from the nearest G-E office or write to: Aircraft Department, General Electric Co., Schenectady 5, N. Y.

PRODUCTION

Priority Given Housing in Britain Hampers Production of Aircraft

Aircraft development also hindered as former building trade workers are transferred from aviation industry to speed reconstruction of heavily damaged areas.

High priority given to new housing in Great Britain has hampered both the manufacture of new civil aircraft and the preparation of landing fields for civil use. Britain is continuing many wartime controls during the reconstruction period and now that war no longer has top billing, workers have been drawn from airports and factories to rebuild homes in heavily-populated and heavily-hit Southern England.

A shortage of design draftsmen and similar workers has been the greatest industry bottleneck, according to Sir William Hildred, Director General of Civil Aviation, who will shortly become secretary general of the International Air Transport Association. Getting new plane through design, he said, "is the devil's own job."

Labor Force Skiffed—Illustrating some of the reconstruction troubles of British industry, Sir William said that 345 workers employed on a single new transport plane project were found to have had pre-war experience as carpenters, bricklayers, plumbers or plumbers and were forthwith transferred to construction work.

In all, he said, there now are approximately 500,000 persons employed in British airframe and engine manufacturing as compared to some 2,800,000 at the peak of wartime activity.

Headline Problem Cited—Scarcity of labor also is one of the factors that has made it difficult to put airports and shops for the new overseas transports which already are flying, Sir William said. He was particularly concerned about progress at Heathrow, some 25 miles northwest of London, which is to be the main field for international operations, but said he was confident it would be the equal of any airport in the United States.

Work at Barn, now used as a trans-Atlantic terminal, is similarly handicapped, he declared. It has

been impossible to get heat for the hangars and labor must be transported from homes miles away. Some have managed to find lodgings in the nearby resort towns, but as soon as the holiday season comes, their landlords oust them in favor of better-paying vacationers.

Still Using Croydon—Meanwhile, he said, British transport is forced to be content with fields like Croydon which is "not ideal, but usable." Gladly Hildred, Croydon has had several hangars and half of its administrative block destroyed. It has only great runways and there is a large depression in the middle of the field, but while "badly lit," Sir William declared, it still handles 1,800 flights a week.



SERVICE CENTER PROJECT

Lockheed Aircraft Corp. will show an inventory of \$11,500,000 when that heavy plane service base is completed at Lockheed Air Terminal, Burbank, Calif. Ground has just been broken for the three large hangars which will complete the center. One will be destined to handle planes larger than the Constellation class, presumably of the size of the Lockheed Constitution, now in the final phase of construction.

WAC Announces Sale Of Two War Plants

Sales of two plants engaged in manufacture of aeronautical production during the war, and the leasing of a third have been announced by the War Assets Corp.

The Chicago factory formerly occupied by the Minneapolis-Honeywell Regulator Co. for the manufacture of aircraft electric control systems has been purchased by the Leaf Building Corp. for the production of chewing gum and candies. Price was \$1,101,465. Reproduction cost of the facility, which was built in 1928, is estimated at \$1,318,845.

Wash Plant Sold—The Nash-Kelvinator plant at Lansing, Mich., used during wartime for production of propellers, has been sold to the Motor Wheel Corp. for \$1,037,455. Original cost was \$2,712,444. The new owners expect to make alterations costing \$468,665.

In one of the few long-term leases yet negotiated for a wartime aircraft plant, the Detroit facility operated by the Republic Aircraft Products division of Aviation Corp. has been leased for three years to the Federal Tank Truck Co. at an annual rental of \$36,650, which is roughly 5 percent of valuation of \$468,665.

Guided Missiles Unit Established By AAF

Industry of the AAF's continuing and expanding interest in robot air weapons, the First Experimental Guided Missile Group has been formed to develop tactics and techniques for the revolutionary weapons.

Under command of Col. Harvey T. Allen, former commander of the Seventh Bomb Group in India, the guided missile work will be undertaken at Eglin Field, Fla., home of the AAF's school of applied tactics. Here, such techniques as "skip-bombing" were tested, and rocket-launching experiments, similar to those of the Germans in France, were built and destroyed in order to find a method of attack.

Objectives Outlined — Objectives of the First Experimental Group are development of tactics and techniques of guided missile operations, cost testing of missile organizations and equipment, development of training requirements and standards, training of personnel and organizational requirements and dissemination of guided missile in the AAF program.

While some guided missiles, the AAF's new combat service to the war, need more data tests for the AAF to decide the various components—cost, equipment, supplies, etc.—of a guided missile force. Thus, formation of the first Ex-

Link Building Canoe

Link Aviation devices in manufacturing a plastic material canoe which can be pushed in the break of an automobile or stowed in the cabin of an airplane.

The portable craft can be carried in two small slipper bags and assembled into a 14-ft canoe in less than ten minutes. It weighs 80 lbs. Much of this lightweight results from the use of molded plastic in each of the craft's sections. This plastic is non-absorbent, does not warp, and is impervious to salt water, oil or gasoline.

permental Group may be considered a "link canoe."

Organization and testing of guided missiles will remain under the control of the Guided Missile Division of the AAF, and the Air Technical Service Command at Wright Field.

Ryan May Reenter Commercial Field

An informal letter sent to stockholders by E. Claude Ryan, president of Ryan Aeronautical Co., gives the first indication that Ryan is planning to reenter the commercial and private airplane manufacturing field.

Ryan's letter and studies of new designs, production and markets for private and commercial planes have been under way since the

war's end. At the same time he added that he did not feel that it was sound policy to fully reveal the firm's plans in the competitive commercial field at this time.

Continuing Military Work—Ryan is continuing actively in the development of advanced military aircraft types, it also was disclosed. This is evidenced, Ryan pointed out, "by the high employment in the engineering, laboratory and experimental departments where much in new and advanced development work is being carried on." Importance of the activities in new design is illustrated by the nature of the work being done in advanced applications of jet propulsion, supersonic speeds and electronics.

Bendix Buys Beechcraft For 'Flying Laboratory'

Purchase of a Beechcraft 185 two-engine plane as the latest addition to the "flying laboratory" of the Bendix Radio Division has been announced by W. P. Hillard, general manager of the Towson, Md. plant.

The Beechcraft will be based at Baltimore Municipal Airport, Hillard said, and will be used in radio and electronic research. It will carry both experimental and standard Bendix radio equipment, as well as the Pioneer Electronic Pilot.

Special Interior Planned — The new plane will be specially designed as a "flying laboratory" for all phases of radio research, with adequate work benches and testing equipment built into its interior design. The research activities will be under the direction of Noel Colvin, flight research engineer.

Surface Combustion Corp. Develops New Heater

Development of an aircraft heater which the manufacturer, Surface Combustion Corp., reports will effect decided economies in the operation of Douglas DC-3 aircraft has been announced by the company. The unit is called the Jantrol.

Surface Combustion says the new heater package adds approximately 50 lbs. payload to the DC-3 since the 193-lb package compares with former weights 50 lbs. less than the system used on planes of this type.

Efficiencies—The unit, contained in a 12-in. by 15-in. by 48-in. fabricated aluminum alloy jacket, can be replaced for servicing and inspection in 15 min.



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AIR-PARTS



Ryan Bomb "Bomber" At Eglin Field, Fla., the AAF is experimenting with atom-bombed guided missiles, using this generating plant. Pressure is built up to 1,200 lbs. per sq. in. and a large quick-acting valve triggered open for eight-tenths of a second. The steam thrust gives the T-3 type robot bomb a speed of 240 m.p.h. by the time they reach the end of the 166-ft. special launching ramp.



Navy Runway Light: High-intensity light like these were developed by the Navy to aid foul-weather landings. Placed both on approaches and at 200-ft intervals along landing strips they permitted operations to continue in visibility as low as one-fourth of a mile.

Navy Cites Value Of Runway Lights

The Navy is convinced of the value of using high intensity lights to aid "all-weather flying" on the basis of 333,537 landings and take-offs and months of operations in the Aleutians area.

High intensity lights not only were installed on the approach areas, but also at 200-foot intervals along the full length of the runway on some airports in the United States and on all those in overseas theaters.

Results Are Good:—A Navy report which should be of interest to com-

mmercial air transport shows:

Where high intensity lights are installed along a runway, the number of accidents involving aircraft striking the lights is very small when compared to the number of landings and takeoffs. Furthermore, the number of such mishaps decreases as the runway width is increased. Here are the figures compiled at four stations:

Station A—390-ft. runway—one collision in 2,743 landings and takeoffs.

Station B—500-ft. runway—one collision in 445 landings and takeoffs.

Station C—300-ft. runway—one collision in 12,855 landings and takeoffs.

Station D—330-ft. runway—one collision in 15,165 landings and takeoffs.

Damage Is Slight:—Damage resulting to aircraft on such accidents varies with the weight. Heavy single engine and multi-engine aircraft sustain little or no damage. Light single-engine planes sustain greater damage but not sufficiently severe to cause personnel injuries.

Lower Fuel Consumption Claimed For New GE Jet

A new axial flow turbo-jet engine has been developed by the General Electric Co. to drive military and civilian planes at great speeds on long flights.

Selected high speed is possible for planes powered by the new jet since these engines function most economically when running at nearly full throttle. This means that sustained speed of an axial flow jet engine is practically top speed.

Improvements Claimed:—Known

in the AAF as the J-35 and industrially as the TG-180, the new jet, according to General Electric, is more powerful at high speeds than any conventional engine in the air today and marks definite improvement in aerodynamic design and fuel consumption.

Commerce Department Research Unit Set Up

A production research and development division has been established in the Commerce Department to initiate and conduct research and development work on such materials, processes and inventions as will advance the technological productivity of the nation.

The new unit will carry out generally the functions of the former Office of Production Research and Development transferred to the Commerce Department from the Civilian Production Administration.

Activities Outlined In Order:—By terms of the executive order effecting the transfer the division will, among other activities, arrange for the development of futuristic inventions and proposals received from the National Inventors Council, other agencies and individuals. The division also is charged with sponsoring the coordination and use of technical knowledge, patented or unpatented, wherever such use would promote technological production.

Kidde Smoke Detector Uses Photo-Electric Cell

A smoke detector for airplane cargo space which works on a standard 120, 240, 240- or 280-volt circuit and utilizes a photo-electric cell has been developed by Walter Kidde & Co. engineers.

Detection of smoke by photo-electric means requires an instrument which functions on slight changes in illumination as a photo-electric cell, caused by the presence of smoke. These changes in illumination ordinarily are so slight as to require extreme accuracy in the detecting instrument, although this sensitivity does not necessarily mean extreme delicacy.

Principle Exploited:—The Kidde detector has a light directed on a photo-electric cell with clear air between the cell and the light source. The introduction of smoke into the light path reduces the light intensity reaching the cell and amplifies the electric current, setting off either audible or visible alarms.

CONTINENTAL AVIATION ANNOUNCING THE NEW **SKYPOWER** PROPELLER

A HYDRAULICALLY OPERATED CONTROLLABLE PITCH PROPELLER FOR LIGHT PLANES

ADVANTAGE TAKE-OFF: A high-performance plane with C-45 engine and the SKY-POWER PROPELLER reduces take-off rate as much as 20% in some. It allows the Continental engine to full throttle from start.

RATE OF CLIMB: Increased by as much as 50% or more with the SKY-POWER PROPELLER. The new Sky Power makes take-off at slower landing speeds.

NEW, year planes can have shorter, plus 20, faster rate of climb, and higher ceiling—improved performance factors made possible by the new Continental Aviation SkyPower Propeller, a hydraulically operated controllable pitch propeller for light planes. The SkyPower Propeller is simple in design and operation, and has been tested and proved in thousands of miles of flight. If your new plane or your present plane is powered with a Continental A-44 or C-75-B, you have everything you need a SkyPower Propeller quickly, at low cost. For literature and details, write Continental Aviation and Engineering

THE SKYPOWER PROPELLER IS THE "GEAR SHIFT OF YOUR PLANE!" NOTE THESE ADVANTAGES:

- **HYDRAULIC PROPELLER** operates hydraulically from the engine, engine oil pump. Hydraulic circuits in airplane — no operating parts — no packing glands at glands in line.
- **PERFECT** control on ground take prop. for take off or cruise.
- **POSITIVE** hydraulic action with SkyPower Propeller in either position.
- **SPECIAL DESIGN** increased shock, shocker for greatest efficiency.
- **SMOOTH DESIGN** results in light weight.

With glass lead, the SKY-POWER PROPELLER increases the ceiling at increased load capacity at slower landing.



New GE Jet Power Plant: General Electric's newly-developed axial flow turbo-jet engine, the TG-180, is designed for sustained high-speed, long-range aircraft.

PERSONNEL

Chicago & Southern Names Maurer General Counsel



Richard S. Maurer (photo) has been appointed general counsel of Chicago & Southern Air Lines, to succeed H. R. Bolander, Jr., vice-president and general counsel, who resigned to join Delta Air Lines in an administrative capacity. Maurer had been secretary and assistant general counsel. Prior to that he served with the Civil Aeronautics Board.

Bolander succeeded Ames & Culbert who now is an American Airlines vice-president.

J. A. Williams has been appointed general manager of the Dayton division of United Aircraft Products, Inc. He formerly was general manager of the Curtiss-Wright Airplane Division plant in Cleveland, Ohio, and held various executive posts in the Curtiss-Wright Corp. in Buffalo.

Maurice Ferner has been named manager of the eastern division of Fairchild Aerial Surveys, Inc., after three years as chief of the photogrammetric division of the Army Map Service. He succeeds Max A. Phillips, who has gone into Fairchild's foreign service.

Ralph Greenwood has been appointed superintendent of the propeller department of the Fairchild branch of Puella Aircraft Corp. Greenwood was service engineer for Hamilton Standard Propeller Co. and previously was supervisor of the propeller department of Douglas Aircraft Co.'s overseas operation in Africa.

K. F. Vanderlip (photo) has joined Kellogg Aircraft Corp. as vice president in charge of all production activities. Vanderlip has been with Curtiss-Wright as executive engineer, general manager of the Buffalo engine plants and factory manager of the Columbus plant. He also has been president and general manager of Bellanca Aircraft Corp. and remains as a member of the board of directors of Bellanca.



C. H. Kibbee has been appointed assistant manager of American Airlines. Kibbee has been in the investment field since 1923. Maj. Thomas L. Marlin has returned to American to resume work in the engineering department.

The board of directors of Blackburn Aircraft, Ltd., England, have appointed W. S. Farren as technical director of the company. Farren has been director of the Royal Aircraft Establishment at Farnborough. During World War I, he was in charge of aerodynamic designs and experiment at the Royal Aircraft Factory. In 1938 he joined Maj. F. H. Green at Armstrong-Whitworth Aircraft. He was one of the early contributors to gas turbines and jet propulsion. After 22 years as a director of Blackburn, E. Haden has retired. The present secretary A. F. Apling will replace him on the board.

Charles E. Hensley (photo) has been appointed system superintendent of reservations for Northwest Airlines. He had been staff assistant to the general superintendent. His new work will be on all problems of reservations.



Carl A. Nelson has been named chief auditor of Northwest, succeeding J. F. Rawls, who has resigned to enter the automobile business. Nelson formerly was with an accounting and auditing firm.

Eight Veterans Return To Positions With CAA

Eight veterans have returned to the Civil Aeronautics Administration. Col. Howard F. Eschig, formerly regional manager at large, returns to his assignment and will serve as special consultant to Administrator T. F. Wright. Col. Russell W. Delaney, formerly chief of air carrier inspection in the 58th CAA region, rejoins CAA as chief of flight operations service. Col. John Marshall has been named coordinator of safety regulation. He was a trial examiner. Col. Bennett H. Girdle, director of the CAA's standardization center at Houston, now is working on equipment. Four former regional managers of the CAA have returned to their jobs, now called regional administrators. Col. George W. West is head of the third region at Chicago, Col. Joseph



CAA OFFICIAL RESIGNS:

Dr. Edgar Fuller, who has resigned as acting chief of the aviation education division of the Civil Aeronautics Administration, to become state commissioner of education for Massachusetts. He is 2844 Dr. Fuller won the Frank G. Breuer Trophy, awarded for outstanding contributions to the education of youth in aviation.

S. Morrell, with the sixth region at Santa Monica, Lt. Col. Robert D. Redinger is manager of the seventh region at Seattle. Lt. Col. Leonard W. Jackson takes up his post at the fifth region in Kansas City.

Col. Glynn M. Juen is joining other CAA representatives in Germany to assist in reorganizing aviation there.

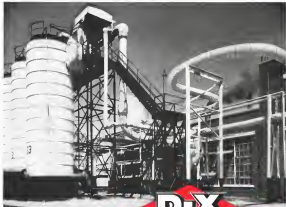


Marvin J. Parks (photo) has been named export manager for Fairchild Engine & Airplane Corp., with headquarters in Washington.

Parks has been an executive on the C-47 project project of the Fairchild Aircraft division in Singapore. He has served with Pan American Airways, Patagonia and American Airlines. In 1940 he was chief test pilot at St. Louis plant of Curtiss-Wright Corp.

Two other aviation pilots with foreign aviation experience will assist Parks in export representatives. They are Alfredo de los Rios, founder and present chairman of the Inter-American Bendrolle, and A. Horsey Gray, who was with Curtiss-Wright.

Gordon E. McGreevy, recently with the RCAF, has been appointed general traffic manager at Trans-Canada Airlines.



AVAILABLE TO OPERATORS OF LARGE AND SMALL AIRCRAFT

A superior, solvent-processed lubricant, D-X Aviation Oil was manufactured to meet the specifications of Army and Navy grades 1065, 1080, 1100, 1100P and 1120 aircraft engine lubricating oil. Characteristics include maximum resistance to carbon, sludge and lacquer formations, and maximum power performance. Refined from selected paraffin base crudes, its enduring film strength provides complete lubrication. D-X Aviation Oil, with inherent chemical stability, increases hours between overhauls, helps prevent loss of power, keeps valves free-acting. Your inquiry invited.

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- Streamlined flow, free from obstruction. No pockets to cause turbulence. Low pressure drop, capacity and pressure requirements reduced.
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CLEVELAND • LOS ANGELES



FLUID POWER PRODUCTS FOR ALL INDUSTRY

SPECIAL AIR SERVICES

CHARTER NON-SCHEDULED INTRASTATE

Revision of Proposed Part 42 For Further Study Is Indicated

Redraft either will be circulated or made subject of conference with industry representatives next month but CAB is firm in plan to proceed with regulation.

With CAB's Safety Bureau still coordinating industry comments on the projected Federal safety regulation of non-scheduled air carriers—Part 42 of the Civil Air Regulations—specimens are that a modified redraft either will be circulated or made the subject of a conference with the industry early next month.

While the redraft will eliminate some features considered hazardous by operators (AVIATION NEWS, Aug. 28, 1945), non-scheduled carriers have won only a minor victory in their long fight to shove off economic regulation.

Board Firm In Plan—As previously reported in AVIATION NEWS, CAB is firmly resolved to proceed with regulation of non-scheduled carriers under what it believes is the intent of the Act of 1934. Consideration has been two-fold: control economic and safety. Public hearings on lifting the exemption order and instituting economic regulation were held two months ago. Safety regulation was not considered at that time.

The Board considers the Part 42 draft only one aspect of the two-fold control, that of safety, with a completely separate action due to an economic regulation. However, Part 42, as written, would eliminate certain types of services and increase operating costs on others. Economic control, therefore, that it is, in effect, economic regulation, and much of their comment stressed this fact.

Single Engine Bailing Scram—Most of the 118 airlines received at CAB by the Jan. 31 deadline were from operators who wanted the prohibition against use of single-engine aircraft at night or under instrument flight rules, effective Dec. 31, 1947, would put them out of business.

Maxwell W. Balkow, vice-president of Spartan Aircraft Co. which, in addition to building a single-en-

gine transport, operates non-scheduled service, termed the proposed ban against single-engine aircraft a "backward step."

He stressed that his organization has thousands of hours' experience in night and instrument flying of this type of plane without an accident.

ATS Hits Carbo—The split on this question was along party lines, with operators of multi-engine equipment favoring Part 42 in toto.

Wayne Washburn, secretary of the Aeronautical Training Society, stated that "this is not the time to freeze experience into the air carrier business at the level of \$5,000,000 or \$10,000,000 corporations, which alone may be capable of purchasing multi-engine equipment."

Pilot Time Plan Moot—Liberals recently considered was the suggestion that pilot time in other than a commercial operation be counted against the allowable pilot hours. This would infuriate against a pilot's

time has two plans for pleasure, it was asserted. Another of the questions—whether a carrier should be required to have its own ground communication facilities—was almost unanimously opposed on the basis of unnecessary expense in duplication of existing set-ups.

Joseph T. Gearing, responding on behalf of the National Aircraft Council, expressed opposition to any type of regulation, stating, "It is our conviction that non-scheduled air carrier operations must not be stifled in any way. This whole field is new and requires every opportunity to develop." Regulation, he added, is not needed and is not in the public interest.

No Comment From ATA—While replies received to the Board's questionnaire covered a cross-section of the industry, even including manufacturers of parts and accessories who supply aircraft service operators, the Air Transport Association did not submit comments. ATA has been among the proponents of economic regulation for non-scheduled carriers.

Full text of the proposed Part 42 first draft, appeared in AVIATION NEWS, Aug. 27.

Four Alaskan Carriers Plan Integrated Service

Merger of four Alaskan carriers is contemplated by Northern Consolidated Airlines, Anchorage, which has asked CAB approval for acquisition of properties and certificates of Ray Peterson Flying Service, Northern Airways, Wialaska Air Service and Northern Air Service.

Incorporated by the four carriers, Northern Consolidated seeks to integrate service from Anchorage and Fairbanks to interior point Ray 1, Peten, co-partner of Ray Peterson Flying Service, is president.

Otto Aviation Reorganized

Otto Airlines, Inc., Newark Airport, has acquired all assets of Otto Aviation Corp.'s airline division and will continue its charter and contract flying, according to Benjamin B. Otto, president. Directors of the new company, which has applications pending for routes radiating from Newark and New York to points in Eastern Pennsylvania, Southern New Jersey and New York state, include Eli Rabb Wilcox, aviation consultant and former New Jersey Airlines, and Arthur Eugene L. Vial, president of Vial Research Corp.

Division On 'Chutes

Answers to the questions, attached to the proposed Part 42, regarding the carrying of parachutes when operations are conducted in single-engine aircraft, surprised both industry and CAB's Safety Bureau.

There was practically an even split among the 118 replies received. While some among the 58-odd airlines said if-conditions were not outright endorsements, they said the matter of parachutes deserved consideration. One slightly odd comment was that the decision should be made only with respect to single-engine aircraft, but to multi-engine planes during instrument flight conditions would not only for non-scheduled operators, but for scheduled carriers as well.



An exclusive new service for the transport of business to Puerto Rico

After fifteen years of service, Pierce Brothers Air has now added a new and exciting route to its growing transportation for all its customers. On March 1st, Pierce Brothers Air will begin a new service to Puerto Rico. This new service will be a daily flight from New York City to San Juan, Puerto Rico, and will be a direct flight. This new service will be a daily flight from New York City to San Juan, Puerto Rico, and will be a direct flight.



NEW CHARTER FIELD

This advertisement as appearing in Los Angeles area newspapers. Several operators of charter transports have talked about constructing with headquarters, but this is believed to be the first time an air carrier has acted. Paul Williams of Domestic Air Express approached Pierce Brothers Maritime with the idea. DAK has contracted with Pierce to air ship a customized body, with a 700-hp engine, from Los Angeles to Dallas for \$145, to Kansas City for \$145, to New York City for \$245. Special railway express arrangements are made to ship to destinations beyond DAK's terminal points.

Other State Codes Studied by Arizona Commission

Arizona Corporation Commission is reviewing codes of other states as a guide for proposed legislation to strengthen its supervision and regulation of intrastate air carriers. Its present authority over aviation is derived from an old law passed before aviation's development.

The contemplated state commercial aviation code would broaden the commission's authority over air carriers by setting up statutes and specific regulations governing such factors as safety, description of routes, fares and rates and procedures for obtaining operating certificates, according to William F. Wright, ACC chairman.

Maryland Line Planning to Use Amphibians

Permission to use amphibian aircraft until variable airports are available in terrain has authorized to serve has been requested of the Maryland Public Service Commission by G. Bernard Fenwick, Jr., president of Pan-Maryland Airways, Inc.

Fenwick told the commission that the outlook for construction of airports at most of the small towns he is authorized to serve on intrastate air routes is "pretty dark." On the other hand, he pointed out, at least two-thirds of the towns are on waterways where amphibians could operate frequently into the business centers of the community. Service to these points probably could be opened this spring, he said. Pan-Maryland is franchised to serve Annapolis, Pooles, Cambridge, Chestertown, Crisfield, Centerville, College Park (near Washington, D.C.), Brandywine, Elton, Frederick, and Westminster. Fenwick said he had ordered 20 Republic Seabees and expected deliveries to start this spring. He indicated he was not abandoning his intention of using some Bellanca Cruisers for land-based operation.

Five More Lines to Seek Routes in Southwest

Arizona-New Mexico area now preparing conference discussed aviation of five additional carriers to make route applications and a request by Braniff Airways for the consolidation of the Amarillo-Las

Angles portion of its transcontinental application in that proceeding or one held concurrently.

Western Air Lines, Southwest Airways Co., Challenge Airlines, Arizona Airways and Texas-New Mexico Airlines were to file for seats by Feb. 19.

Hearing of the case, last assigned of the regional Federal Aviation Commission, was tentatively set for June, possibly in Albuquerque or Phoenix, in accordance with participants' requests.

Use of Large Cargo Gliders in Canada Is Predicted

Large freight planes towing loaded gliders which will be released over their destinations are anticipated within a year or two, as the opinion of C. H. "Punch" DeLong, president of the Air Industries and Transport Association of Canada.

The tow planes would land at terminal communities which have airports of sufficient size to accommodate large aircraft. The gliders would be brought down at small clearings in remote communities.

Louisiana Service Renewed

Regular intrastate service between New Orleans and Monroe, La., has been resumed by Southern Airlines, a division of Southern Trailways. Flights were discontinued in early January because of airport conditions at Monroe. Stops at Alexandria and Baton Rouge are also made. Census transports are used.

'Flying Showroom' Tour Scheduled

A new conception of aviation as an export marketing aid will be put into action by Trans-Caribbean Air Cargo Lines, Inc., about April 15. The company will operate a DC-4 fitted out with manufacturer's samples and displays through 11 Latin American countries stopping at 18 major cities.

The "flying showroom," in addition to crew, will be manned by trained demonstrators speaking both Spanish and Portuguese. The plane will carry 20 specially-fitted booths, each 2 1/2 ft. deep, 2 ft. long and 5 ft. high. Each manufacturer is assigned a booth for his products. The display can be augmented with colored slides, using projections furnished by Trans-Caribbean.

PAH Route Resumed — A-2 28

1-20-46, FLASH! UNITED BUYS FLEET OF MARTIN TWIN-ENGINE TRANSPORTS!



Going places!

5 GREAT AIRLINES BUY THE MARTIN 2-0-2

Since its announcement just a few months ago the Martin 2-0-2 transport has won sizeable orders from five of the nation's leading airlines. These orders from PCA, Eastern, Colonial, Chicago & Southern and Braniff are only a beginning. When five major companies study all competing designs and find the Martin 2-0-2 to be clearly superior, it is safe to assume that other airlines will arrive at the same conclusion. Airlines' travelers will have the world's finest air transportation when they fly via Martin 2-0-2.



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AVIATION NEWS • February 18, 1946

Convair Purchase of ACF-Brill Keynotes Trend to Diversification

\$7,500,000 deal acquiring trainer equipment company control is bold step in general effort to utilize surplus production facilities by entering non-aviation fields

Aircraft builders are rapidly diversifying their activities by entering non-aviation markets as a sharp outgrowth of military orders cut down from them with the problem of disposing surplus production facilities. As the economic competition have comfortable bank balances, it has not been difficult to buy into other enterprises.

Perhaps the boldest step yet in this direction was taken recently by Consolidated Valve Aircraft Corp. in its initial commitment of \$1,500,000 in acquiring control of ACF-Brill Machine Co. Earlier this year, Convair also entered into a contract with its private, Aviation Corp., which owns almost 30 percent of its stock, to produce durable consumer goods such as kitchen stoves and farm implements.

Details of Acquisitions—In the ACF-Brill acquisition, Convair initially will own 443,139 of the 562,076 shares and 180,694 of the 323,044 outstanding warrants. Each warrant carries the right to purchase one common share at \$12.50 until Jan. 1, 1950, and at \$15 until Jan. 1, 1955.

ACF-Brill, together with its wholly-owned subsidiary, Hall-Scott Motor Corp., has previously engaged in the production of mechanical training equipment and engines for buses, trucks, marine and other purposes. The company is currently reported to have a backlog of some \$50,000,000 in orders.

Discontinued in 1946—This enterprise was a subsidiary of the American Car & Foundry Co., freight car builders. The Brill properties were recapitalized in July, 1946, after a substantial corporate expansion. Prior to the war, that company operated at deficit levels. Minority stockholders, with regularity, sold ACF for accountants, changing management. The parent, in turn, announced that the company was in crisis on its money operations, requiring frequent transfusions.

War earnings helped the motor company through and generated the simplification of the capital structure that followed in 1944. In the recapitalization, \$4,500,000 in 6 percent, income debentures also were issued of which almost 12,000,000 were received by ACF in settlement of old claims. It is not unlikely that ACF is relieved to be free of control and management of this property.

May Expand Holdings—It is probable that Convair will expand its holdings in ACF-Brill. Aviation Corp. financial policy appears to favor owning as much of the equity of controlled subsidiaries as possible. This was clearly evident in the case of American Central Manufacturing Corp. now 61 percent owned by Aviation Corp. It is clear in the current purchases of the common stock of the Convair Corp. When Aviation Corp. acquired control of Convair in August, 1945, it obtained approximately 600,000 shares. These holdings may have been increased to 985,848 and of the total 945,300 shares outstanding for Convair.

Purchased Equipment Firm—Last October, Aviation Corp. purchased control of New Idea, Inc., manufacturer of farm machinery and implements. Convair's New Idea plant is in the process of being converted to manufacture gas and electric engines for Aviation Corp. which will handle distribution and sales. Later, this plant will produce farm machinery for New Idea.

With the Civil Aeronautics Board decree ordering Aviation Corp. to sell the bulk of its American Airlines holdings, and with Convair entering customer care—aviation fields—it is clear that Aviation Corp.'s primary interest will no longer be in the aeronautical industry. It is ironic to note that the predecessor unit of Aviation Corp. in 1928 sold its entire holdings of Bendix Home Appliances, Inc., for 15,000 shares of founders' stock of

the New York Shipbuilding Corp.
Lockheed—Lockheed Aircraft Corp. is dealing its way towards diversification very slowly. The company recently purchased the 1940 capital stock of Pacific Engineering Corp. of Los Angeles and proposes to merge this property with the Aeroquest Corp., recently formed by Lockheed to make ground handling equipment. During 1943 and 1944, Lockheed acquired control of Pacific Finance Corp.
Curtiss-Wright—Curtiss-Wright Corp. has also branched out moderately into the non-aircraft field. A number of months ago, it acquired the L. G. & S. Spring Clutch Co. of Indianapolis and presently the Monarcite Metal Products Co. of Cleveland.

Martin—Glenn L. Martin Co. is also shifting to non-aviation markets. The company has recently announced that it will construct a \$1,500,000 building in Cleveland to manufacture its new elastic plastic, Marflex resin, for commercial purposes. The company has formed a plastics and chemicals division and eventually will venture further into the field. The plant will manufacture only new materials, not reused plastic products.

Boeing—Boeing Aircraft Corp., in association with Atlas Rubber, Inc. (formerly Dynamon Dredging Machines, Inc.) is proceeding with plans to construct a new type metal and plastic house, and a revolutionary automobile production (Automotive News, Feb. 11).

Grossman—Grossman Aircraft Engineering Corp. last year demonstrated a new type of aluminum canoe. It is too early to determine the extent of the company's participation in the manufacture of this product. Unlike most of the aircraft builders, Grossman did not expend widely to meet war production shortages and does not have the relatively large production facilities to contend with.

Not all aircraft builders, however, are attempting to diversify—as yet. United Aircraft Corp., Boeing Airplane Co. and Douglas Aircraft Co. are examples of those which thus far have shown no signs of straying from the aircraft field.

May Face Deficit—Some observers believe that diversification in heavy industrial and consumer goods means profitable operations. In fact, certain profitable activities may incur heavy deficits and subsequently liquidated at considerable loss to the stockholders. In the last analysis, the success of any non-aircraft activity will be dependent on the quality of its management.



He's shaking hands with 90° below

ROBBER PARTS for planes have to function properly at the lowest temperatures apt to be encountered in flight. So B. F. Goodrich tested these temperatures into the testing laboratories.

"They built a large new 'cold room'—a refrigerator 30 feet long and 15 feet wide. In three of the chambers, a temperature of 60° below zero can be maintained. And then there's the even-colder chamber where a smaller box manufacturer a 90° below temperature.

The man in the picture above is testing airplane tires in the even-colder chamber. The hose has to be thick too in subzero cold. B. F. Goodrich

technicians know that if a car must also run and stay flexible, there is little in that tires more. Goodrich keeps ready to meet the demands of tomorrow's aviation customers. The B. F. Goodrich Company, Akron, Ohio.

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is an important aid to new product development and research. It is one more example of the way B. F. Goodrich keeps ready to meet the demands of tomorrow's aviation customers. The B. F. Goodrich Company, Akron, Ohio.

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inspection—maintenance—reconversion for airlines, Army, Navy and private owners. • Firestone Distributor, authorized and approved Douglas Conversion Center and Callifornia Encospe Distributor. • We are in the fortunate position of having a large group of highly skilled personnel, many with 10 to 28 years' experience in Aviation. Many of these men have been with this company more than 10 years.

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TRANSPORT

Ratification of Bermuda Agreement Breaks World Transport Bottleneck

U. S. representatives satisfied with results of conference which forces traffic to and through U. S. and Britain, multilateral agreement along same lines seen possible through ICAO.

With the possible exception of the American World Airways U. S. government and airline executives returned from Bermuda last week highly satisfied with the results of their four weeks of work at the Anglo-American Civil Aviation Conference.

Following ratification of the Bermuda agreements by Washington and London, international air traffic between and through the two countries and their possessions now will move without frequency limitation, with virtually unlimited rights to Fifth Freedom traffic and with rates subject, for the next year, to regulation by the International Air Traffic Association under the eye and vote power of both governments.

• **Breaks Bottleneck**—In addition, the agreement breaks the bottleneck that has kept American carriers from completing their route structures in Europe and the Near East.
The U. S. now confidently expects that bilateral agreements on the same liberal terms as the Bermuda accord can be reached with such countries as India, Egypt and Greece. These are key points in U. S. international routes which have been in the British orbit and with whom no satisfactory agreements have as yet been reached.
• **Multilateral Agreement Seen**—There now is a possibility that the Provisional International Civil Aviation Organization at Montreal will be able to draft a multilateral agreement along the Bermuda lines that will be acceptable to most nations. This may greatly simplify completion of the framework of international agreement on which the air transport system depends.

The route structure agreed on by the two countries is the first public demonstration that the Fifth Freedom works both ways. U. S. lines will have the right to pick up traffic in Britain for a large number

of European and eastern points, and British Overseas Airways routes from England will have access to seven major American cities besides the one—Baltimore—now served. These other cities are New York, Chicago, Detroit, Philadelphia, Washington, Boston and San Francisco.

• **Effect On FAA**—In addition, along some of the routes, BOAC will be able to pick up U. S. traffic destined for other countries—an agreement

U. S., U. K. Exchange

As a result of the Anglo-American negotiations at Bermuda, the British Government has invited the Civil Aeronautics Board to post a representative in London for constant consultation with the Ministry of Civil Aviation. The Ministry, in turn, will have an office with CAB in Washington.



ATA CHIEFS SEE LANGLEY LABORATORY:

Three Air Transport Association executives were among the group who visited the MACA laboratory at Langley Field, Va., when it was opened to public inspection recently for the first time since before the war. (See Page 7.) In the picture (left to right) are Henry J. A. Reid, executive in charge of the laboratory, Robert Rasmussen, executive vice-president, Eastern S. Land, president, and Milton W. Arnold, operations vice-president, of ATA, and John F. Victory, NACA secretary.

which is a fly in the Pan American continent for those third countries are almost entirely Caribbean and Latin American nations which it now serves.

BOAC, for instance, will be able to take on American passengers at New York for Mexico City, Cuba, Panama, Colombia, Ecuador, Peru and Chile. Rights accorded to BOAC on lines through the U. S. from the Caribbean to Montreal, or across the U. S. to Hong Kong and Singapore, are not expected to conflict as much with U. S. laws.

• **Maintaining Factors Close**—Military factors are the probable quite lag in activating these BOAC routes, and the agreement's provisions that traffic picked up in this way under the Fifth Freedom must be incidental to the land-haul payload from the country of origin to the final destination.

Domestic criticism of the agreements so far, however, has centered on the rate regulation features, rather than on the route structure. Sen. Burton K. Wheeler and Pat McCarran, the latter a leading advocate of the single U. S. flag line proposed by Pan American, have questioned the authority of the State Department and the Civil Aeronautics Board to ratify the Bermuda accord as an executive agreement. Wheeler also has criticized the procedure for rate fixing through IATA as an international cartel.

• **Authorities Confirmed**—State Department legal authorities, however, are confident that their agency has all of the authority necessary, while the CAB is expected to issue a formal ruling confirming the in-

Treaty Bill Offered

As a sequel to his Senate speech criticizing the Bermuda conference agreement reached at the Anglo-American conference in Bermuda, Senator McClellan has introduced legislation (S 1814) requiring all international air transport agreements to take the form of a treaty.

Formal statement at Bermuda that it has the legal power to approve international agreements on rates and, by approving, exempt them from the operation of the anti-trust laws.

Beyond this, however, the Bermuda agreement stipulates that CAB will ask Congress, as it has before, for clear and direct authority to fix rates. Each government reserves the right to make final judgment on the fairness of rates and to refuse to abide by the agreements of the current IATA conference. Until CAB requires direct rate fixing power, each country, in the case of a rate dispute, will prevent the running of services at the rate complained of.

After they have been acquired, however, a proposed new rate will go into effect automatically at the end of a 30-day notice period,

pending settlement of disagreement by consultation between governments or by PICAO arbitration. This latter clause, plus the general provision that any dispute over points covered by the Bermuda agreement shall be referred to PICAO for an advisory report, somewhat strengthens that body's position as conciliate referee. Failure of U.S. and Great Britain to agree at the Chicago Conference which created PICAO left it with virtually no economic power.

Plans Support CAB—U. S. North Atlantic Carriers.—The American, American Overseas, and TWA—as well as the State Department have agreed to support the request of CAB for direct statutory power to regulate the rates charged by international U.S. flag carriers.

Terrell C. Drinkwater, vice-president of American Overseas and advisor to the U. S. delegation at Bermuda, said on his return to this country that "no crisis is involved in the agreement at all. You can't hold your nose up in a public utility when the government is facing crisis."

Will Propose Lower Rate.—Drinkwater and his company will propose a rate substantially lower than the present \$175 to London at the forthcoming meeting of the IATA rate conference and will ask legislation at a later date.

New Device Permits Automatic Landings

Minneapolis-Honeywell announcement overshadowed results of all-weather flying conference.

Nature of the instrument landing system that may be used commercially for the next few years was indicated in the announcement last week of a completely automatic landing device that in its applications overshadowed the week-long conference on all-weather flying and landing that had just been concluded.

Minneapolis-Honeywell Regulator Co., which developed the automatic blind landing device in cooperation with CAA, did not give an exposition of its operation at the conference, although the firm was represented at the session. The meeting was sponsored by the AAF (Aviation News, Feb. 11).

Complex Two Instruments.—The device couples the company's electronic "Autopilot" with a glide path indicator and localizer receiver tuned to the standard SCSS-31 approach system being installed by CAA. The pilot does not touch the controls. CAA reports many successful completely automatic landings at its station at Indianapolis. The device also faced well in Army tests, it is reported.

Because of this, informed opinion is that CAA will not change plans to build its instrument approach system around SCSS-31, despite thorough tests being made at Indianapolis with the Ground Controlled Approach all-weather system. The extensive coupling is said to overcome many of the aligned shortcomings of SCSS-31.

Conference Hears 15 Reports.—At AAF's conference, emphasis was on adaptations of SCSS-31, GCA, the IFF (Identification, Friend or Foe) instrument used during the war, and LORAN (Long-Range Navigation). Fifteen companies presented outlines of their systems, which ranged from a sophisticated "block-to-block" set-up, based on railway procedure—suggested by General Railway Signal Co.—to refinements in existing SCSS-31 to VHF.

As a result of the discussions, a committee to be headed by Col. Ben S. Kelley of Wright Field will recommend acquisition and landing systems for tests on a proposed AAF experimental all-weather "autoland" field with ordinary equipment on the route of the line had been denied.



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LANCASTER INTERIOR:

Photo shows the interior of one of the converted Lancaster bombers being used by Trans-Canada Air Lines as its three-weekend service from Montreal to Vancouver, Scotland. The ship has fluorescent lighting, electrically heated kitchens, and stewardess service. Some of the customers carry night passengers, others tea.

ALPA Reported Forced to Deal With Airline Negotiating Group

All 13 of affected carriers said to be in on National Mediation Board sessions over continued protest of Behrke.

By BLAINE STURRLEFIELD

Reports from meetings at the National (Railway) Mediation Board are that the Air Line Pilots Association has been compelled to recognize and deal with the airlines' negotiating group on ALPA's demand for more than 50% pilot pay increase on 4-engined equipment.

These reports say that all 13 operators in the 4-engined program are now in the negotiations, over the continued protest of David L. Behrke, ALPA president, who has insisted he would deal with the committee one at a time and not with the committee as a whole.

■ CAB Agreement Agreement—Approved by CAB of the airlines agreement creating the wage negotiating committee merely releases the operators from liability under the railroad laws. Since the dispute between ALPA and the airlines had ended, it had no objection to the agreement, CALPA approved it of no legal implications.

But does that weight the controversy is more extent on the operators' side. Activities of the committee in the interim were in no way illegal. CAB counsel told Aviation News. The fact that pilots are being lured by non-scheduled carriers of both passengers and cargo at rates far lower than those paid to airline union pilots is being cited by airline officials and others who think that train rates demanded are unsustainable.

■ Non-scheduled Carriers—Pilots on the non-scheduled operators are required to have commercial ratings (minimum 300 hours) only, yet according to CAB certification officials each pilot already and will increasingly, by the same kinds of equipment as that flown by the scheduled lines including four-engined craft. Thus the required skill and responsibility is about the same in either type of operation.

Facilities provided on the scheduled lines are in most cases superior, which should make the pilots' job easier.

■ Rolling News—In writing the order under Title 4 of the law, excepting non-scheduled operators from certain economic and safety controls, the Board specifically indicated that such exemptions did not apply to the labor provisions of the Act—similar as such provisions now apply to the non-scheduled lines. CAB legal sources say CAB apparently now is or soon will be confronted with a decision whether pilot pay and other labor disputes on the non-scheduled lines shall be referred to the Mediation Board. Proposed Part 42 of the Civil Air Regulations would raise the requirements of pilot qualifications on non-scheduled lines. CAB sources readily admit that the public is entitled to the right to safety that would result. (See Page 37) Qualifications still would not be as high as on the certificated lines however.

The Mediation Board, the airlines committee and the pilots are holding the 3d round on their negotiations. The theory that public discussion jeopardizes the chances of successful conclusion. But persons on the inside say the fight is a bitter one.

Michigan Cities Seek Better Air Service

Fifteen Michigan communities seeking to get the votes in transportation "out of the open line" plan to file with CAB a petition for new service. All are members of the State Air Transport Association.

City Manager Carl H. Peterson of Saginaw Association president, was a pilot serving Michigan have been too primitive where they want to go. The need definite need is a route from Chicago to Northern Michigan. (PCA has not flown to AM 41 north from Flint since wartime service pilots took effect in 1945.)

■ Outlets—Columbus—He and PCA had promised resumption of service in the Saginaw Bay City and Midland in city areas "in or shortly after February" but the airlines officials failed to appear for a meeting recently scheduled with city officials from that area.

Peterson has been authorized by MATS' board of directors to obtain the services of Col. Floyd E. Jones, director of the State Department, to assist in securing the Airlines in working out a statewide pattern for air service.

Airport News Highlighted by Start Of ATA Survey of Operations

Baltimore plans or new municipal airport meet opposition from property owners; Detroit base at Windsor, Ont., favored with Willow Run as interim terminal.

By MERLIN GICKLER

The study of airport terminal operations throughout the country authorized by the Air Transport Association—one of the major developments in recent airport news—started recently at Memphis, Tenn., less than three weeks after the survey was approved by ATA directors. Joseph D. McGoldrick, former New York City city engineer who is directing the survey, and other airport specialists associated with him talked with Memphis city officials and airline executives and investigated local airport facilities. Memphis terminal problems, McGoldrick, are typical of other airports because it is an important point on north-south as well as east-west flight.

■ Other Cities To Be Studied—Other cities to be studied are Albuquerque, Benton, Chicago, Dallas, Denver, Detroit, Kansas City, Miami, Peoria, San Francisco and Tulsa.

Selected for their variety, plus the fact that they are served by one or more of most of the major airlines, airports at the places will be the source of information on present activities and present and future costs and revenues, need for expansion and equipment investment and prospects for local government financing and the possibility of savings through a combined operation by an airline terminal corporation. Recommendations on the latter point probably will be made in coming 30 to 60 days, on the outcome of the first two.

■ Many Problems Arise—While the study was progressing, municipalities in various parts of the Nation were experiencing airport growing pains with differing degrees of severity.

At Detroit, where after long controversy settlement was in favor of an international airport near Windsor, Ont., for the Detroit Metropolitan area, Willow Run was the airport for Ford's famed D-34 bomber plant, was slated for aviation use until the international field is completed. Both Wayne County Airport and the proposed Northwestern site were out of the picture, although there was a possibility that

the former might be expanded to become Detroit's cargo airport.

■ Baltimore Plan Hit—In Baltimore, a protest against the location of a proposed new municipal airport and a formal demand for public hearing was filed with the State Aviation Commission by a woman attorney, Mrs. Frankie Wilson, who claimed to represent 94 citizens owning 1,404 of the approximately 2,500 acres on the tract under consideration.

The protest was filed the day before expiration of the 30-day posting period required by state law, and came as a surprise to the Baltimore Aviation Commission. Not anticipating any such objection, it had employed a firm of consulting engineers which had made a aerial survey and map of the property and had a topographical survey newly completed. Hearing on the protest will be held late this or early next month.

■ Bond Issue Approved—Baltimore voters have approved an initial bond issue of \$3,000,000, with a similar

Better Airports Urged

Lack of an adequate nationwide airport system is seen by C. Rodell Moore, president of PCA, as the chief factor limiting commercial aviation.

In a talk before the Boston Advertising Club in early Boston and Detroit as examples of cities which have not kept pace with aviation. Neither airport was accommodations from engine equipment.

■ Plans Against Politics—Moore warned against political interference and lobbying, and city planners have not overlooked aviation's potential growth. Speed and action is needed in airport planning and construction, the PCA executive asserted, but this does not mean that modern airports must show "substantial profits for communities" if properly developed and maintained.

More to be voted on probably this year. Matching federal funds will be sought. Meanwhile, an easing of the space situation at the Baltimore airport is in sight with three bargains now on Logan Field, the original municipal airport, to be moved to the present field.

Elsewhere, there were the following developments:

■ Miami—Miami Port Authority and the Dade County Commission, stirred perhaps by recent newspaper



RAINBOW CAPACITY INCREASED BY SIX SEATS

This money drawing of the proposed Republic Rainbow shows details of seating to increase passenger capacity from 46 to 52. In the original appearance (AVIATION NEWS, Sept. 2, 1945), eight seats faced backwards and the seats between the wings were used as a lounge. The military (XP-12) prototype has flown, and the commercial version is in the ready-to-fly state in the summer of 1947. Pan American Airlines Co. is to sell it at \$1,250,000 each. Republic has promised the airlines that the Rainbow (transport XP-12) will have at least 400 mph top speed, it will cruise at 300 mph at 40,000 ft., with a range over 3,100 mi. The transport ship will be 103 ft. 9 in. long—5 ft. longer than the XP-12. (Photo on Page 2.)



Airlines to Use Willow Run: Plans are being made by airlines serving Detroit for use of Willow Run airport, 28 miles from the city, as an interim field until the proposed international airport at Windsor, Ont., is completed. They would leave the field from the University of Michigan, which hopes to acquire the \$7,800,000, 1,400-acre installation free from RFC for use as an aeronautical laboratory. The university's only objection would be to keep the field in top condition for military use should the need arise. If the university proposition is not accepted (about three weeks remain in when other government installations may be laid for the property) the current expert to negotiate for the field themselves.

Don't Forget The Private Flyer

AFTER the close of the all-weather flying conference at the Pentagon Building CAA opinion was that papers delivered at the conference support CAA's plans to proceed with the installation of its SC9-31 landing system—as reported on Page 34 of today's *Buzz*.

It is true that several of the speakers commended SC9-31, but it should be emphasized that the theme of the conference was transport flying. It is also true that SC9-31 is effective in transport operations, although some complaints about its reliability seem to apply in that sphere as well as others.

However, when CAA decides on a standard instrument approach and landing system to be installed nationally, it should seek a system that will prove practical and useful for all types of flying—as well as transport. And there is great dissatisfaction among many private pilots with SC9-31. But the private pilot was excluded from any expression of his opinion during the week-long conference at the Pentagon.

Among complaints of private pilots are that SC9-31 requires far more equipment in a plane than is possible in a personal aircraft, that the glide-path beam is unreliable and that when the transmitter is inoperative the indicator in the plane registers a correct approach, that too much experience is necessary for a private pilot to use the system safely.

The last complaint would appear to be the one to be given most consideration by CAA. Flying is the profession of airline pilots. They must keep up with

all developments and be proficient in all aspects of their profession. This, however, is not true of most private flyers. Few will venture to start a flight when they know with certainty that a landing must be made under instrument conditions. Despite this, there already are good chances that there are one or two accidents a year when many private pilots will have to make such a landing. In preparation for an emergency that may never come, most every private pilot undergoes the rigorous training that is necessary to acquire the skill of a transport pilot.

Certainly, if we have as many private aircraft flying by 1965 as CAA says we shall have, it would seem that the agency might well start planning realistically for them.

CAA now is undertaking tests at its Indianapolis experimental station on the radar ground control approach system which, advocates claim, can be used by anyone, and with no special equipment in a plane other than a transceiver. The agency is to be commended for thus exploring the chief alternative to SC9-31. But the needs of private flyers would be relieved if CAA also would take cognizance of their doubts and publicly answer now how much consideration private flying will be given in this vital matter.

Such a course also might relieve a growing fear that CAA is neglecting the interests of private flyers in its entirely worthy endeavor to aid transport aviation.

Watching An Industry Disintegrate

JANUARY military aircraft deliveries slumped to 163, plus one glider. This is an annual production rate of well under 2,000 British schedules for 1946, at latest information, call for about twice as many aircraft as United States schedules. Australia, with less than a tenth of our population, will produce at least half as many military aircraft as we.

As far back as last October Great Britain built 656 warplanes, contrasted with our total, including gliders, of 470. In November the British score was 243 against our 256.

A rate of 2,000 aircraft a year is hardly two-thirds of the lowest level recommended by the Air Coordi-

nating Committee in its Report last fall, and little more than one-third of the upper level recommended. Although, fortunately, research is well underway, the Nation's diversified aircraft industry cannot be maintained as a strong national defense arm on the present slim appropriations or commercial orders.

Month by month our production of service-type aircraft as necessary to our national security sinks lower and lower and what was once the world's greatest aviation plant disintegrates still further. The Army, Navy, Congress and the White House still do nothing about a national air policy.

ROBERT H. WOOD



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